

CLAIMS:

1. An apparatus for delivering an artifact-compensated defibrillation shock to a patient, comprising:
 - at least one sensor (22,24) adapted to make electrical contact with the patient;
 - a detector (10) coupled to the sensor (12,22,24) for detecting an input signal indicative of a patient impedance and the movement of the patient caused by a cardio-pulmonary resuscitation (CPR) operation;
 - a processor (40) for receiving the input signal from the detection system, for analyzing the detected input signal to produce a corresponding correlation signal indicative of signal corruption, and for determining a desired energy-level output based on the correlation signal; and,
 - a defibrillation shock discharger (44) for providing a plurality of energy-level outputs to the patient.
2. The apparatus of Claim 1, wherein the sensor (22,24) comprises a pair of electrodes to determine the patient impedance.
3. The apparatus of Claim 2, wherein the pair of electrodes comprises a defibrillation electrode.
4. The apparatus of Claim 2, further comprising an ECG front end (32) coupled to the pair of electrodes to determine the patient impedance.
5. The apparatus of Claim 1, further comprising an LCD display (42).
6. The apparatus of Claim 1, further comprising a speaker to notify an operator prior to discharging the artifact-compensated defibrillation shock.
7. The apparatus of Claim 1, further comprising a deactivation button (36) for providing a manual cancellation of the artifact-compensated defibrillation shock.

8. The apparatus of Claim 1, wherein the processor (40) analyzes the correlation signal to determine a degree of corruption of the input signal.

9. The apparatus of Claim 1, wherein the pair of electrodes comprises a defibrillation electrode.

10. The apparatus of Claim 1, wherein the desired energy level is selected manually by a user.

11. The apparatus of Claim 1, wherein the defibrillation shock discharger (44) is configured to deliver the artifact-compensated defibrillation shock at the desired energy level output to the patient after detecting no movement of the patient for a predetermined time period.

12. A system for delivering an artifact-compensated defibrillation shock to a patient, comprising:

- a pair of electrodes (22,24) coupled to the patient to deliver the defibrillation shock;
- at least one sensor (12) adapted to make electrical contact with the patient;
- a detector (32) for receiving an ECG signal indicative of a patent impedance via the electrodes and an input signal indicative of the patient movement caused by a cardio-pulmonary resuscitation (CPR) operation;
- a processor (40) for producing a correlation signal indicative of signal corruption based on the ECG signal and the input signal received from the detector (32) and for determining a desired energy-level output based on the correlation signal; and,
- a defibrillation shock discharger (44) for providing a plurality of energy-level outputs to the patient.

13. The system of Claim 12, further comprising an LCD display (42).

14. The system of Claim 12, further comprising a speaker to notify an operator prior to discharging the artifact-compensated defibrillation shock

15. The system of Claim 12, further comprising a deactivation button (36) for providing a manual cancellation of the artifact-compensated defibrillation shock.

16. The system of Claim 12, wherein the desired energy level is selected manually by a user.

17. The system of Claim 12, wherein the defibrillation shock discharger (44) is configured to deliver the artifact-compensated defibrillation shock at the desired energy level output to the patient after detecting no movement of the patient for a predetermined time period.

18. A method for delivering an artifact-compensated defibrillation shock to a patient, the method comprising the steps of:

coupling a pair of electrodes (22,24) and a sensor (12) to the patient's body to detect an input signal indicative of a patient impedance and the movement of the patient, respectively;

monitoring the heart rate of the patient to determine if a defibrillation shock is necessary while performing a cardio-pulmonary resuscitation (CPR) on the patient.

upon detecting an end of the CPR operation on the patient, providing a correlation signal indicative of signal corruption;

determining a desired energy-level output based on the correlation signal; and,

delivering the defibrillation shock responsive to the desired energy level output to the patient via the pairs of electrodes (22,24).

19. The method of Claim 18, further comprising the step of monitoring the heart rate of the patient during the delivery step to determine if a subsequent defibrillation shock is necessary.

20. The method of Claim 18, further comprising the step of notifying an operator prior to delivering the defibrillation shock.

21. The method of Claim 18, further comprising the step of providing a manual cancellation of the defibrillation shock.

22. The method of Claim 18, wherein the desired energy level is selected manually by a user.

23. The method of Claim 18, further comprising the step of delivering the defibrillation shock at the desired energy-level output to the patient after detecting no movement of the patient for a predetermined time period.

24. The method of Claim 18, further comprising the step of canceling the defibrillation shock if a subsequent movement by the patient is detected.